



SEQUENCE LISTING

BEUTLER, BRUCE
POLTORAK, ALEXANDER

<120> LPS - RESPONSE GENE COMPOSITIONS AND METHODS

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 ctgagttcaa ggccagcctg gtttaaaaag tgagttccag gacagccaaa gctaccaga 49320
 aaaacccgt ttcaaaaaac caaataaaaa aaaaaaaaaa aaaaaaaaaa aaaaaaaaaa 49380
 aaaaaaaaaa ggatcgatt ctaattatca gccaaaggtag ggaataacct tatcttttgt 49440
 gacatatgtg gaccatactt taagtttttg tgggtactaa cttcattctt gttttat tttt 49500

tctctgtctc tctgaattct ctttctcttt cctattaccc ttatgcccaa agcatgagaa 49560
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 aactctataa ccctttttgt ttgcttggtt ttgcatggga tagttattat gcattctatc 49680
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 tgtctaacac tatatgcttt ttttccctct ctttcaaata gaggtaatag atacctttca 49800
 gtatctatta gcagaggagt ttgcagacat atacaaagtt catttttctc ctaggaagtt 49860
 ttcttttctt tgcttttcat gccatctaac atttgtagga aagctgcttt ctgctaccac 49920
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 20 25 30
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 35 40 45
 Pro Asp Asn Leu Pro Phe Ser Thr Lys Asn Leu Asp Leu Ser Phe Asn
 50 55 60
 Pro Leu Arg His Leu Gly Ser Tyr Ser Phe Phe Ser Phe Pro Glu Leu
 65 70 75 80
 Gln Val Leu Asp Leu Ser Arg Cys Glu Ile Gln Thr Ile Glu Asp Gly
 85 90 95
 Ala Tyr Gln Ser Leu Ser His Leu Ser Thr Leu Ile Leu Thr Gly Asn
 100 105 110
 Pro Ile Gln Ser Leu Ala Leu Gly Ala Phe Ser Gly Leu Ser Ser Leu

115		120		125
Gln Lys Leu Val Ala Val	Glu Thr Asn Leu Ala Ser	Leu Glu Asn Phe		
130	135	140		
Pro Ile Gly His Leu Lys	Thr Leu Lys Glu Leu Asn	Val Ala His Asn		
145	150	155	160	
Leu Ile Gln Ser Phe Lys	Leu Pro Glu Tyr Phe Ser	Asn Leu Thr Asn		
	165	170	175	
Leu Glu His Leu Asp Leu	Ser Ser Asn Lys Ile Gln	Ser Ile Tyr Cys		
	180	185	190	
Thr Asp Leu Arg Val Leu	His Gln Met Pro Leu Leu	Asn Leu Ser Leu		
	195	200	205	
Asp Leu Ser Leu Asn Pro	Met Asn Phe Ile Gln Pro	Gly Ala Phe Lys		
	210	215	220	
Glu Ile Arg Leu His Lys	Leu Thr Leu Arg Asn Asn	Phe Asp Ser Leu		
225	230	235	240	
Asn Val Met Lys Thr Cys	Ile Gln Gly Leu Ala Gly	Leu Glu Val His		
	245	250	255	
Arg Leu Val Leu Gly Glu	Phe Arg Asn Glu Gly Asn	Leu Glu Lys Phe		
	260	265	270	
Asp Lys Ser Ala Leu Glu	Gly Leu Cys Asn Leu Thr	Ile Glu Glu Phe		
	275	280	285	
Arg Leu Ala Tyr Leu Asp	Tyr Tyr Leu Asp Asp Ile	Ile Asp Leu Phe		
	290	295	300	
Asn Cys Leu Thr Asn Val	Ser Ser Phe Ser Leu Val	Ser Val Thr Ile		
305	310	315	320	
Glu Arg Val Lys Asp Phe	Ser Tyr Asn Phe Gly Trp	Gln His Leu Glu		
	325	330	335	
Leu Val Asn Cys Lys Phe	Gly Gln Phe Pro Thr Leu	Lys Leu Lys Ser		
	340	345	350	
Leu Lys Arg Leu Thr Phe	Thr Ser Asn Lys Gly Gly	Asn Ala Phe Ser		
	355	360	365	
Glu Val Asp Leu Pro Ser	Leu Glu Phe Leu Asp Leu	Ser Arg Asn Gly		

370		375		380	
Leu Ser Phe Lys Gly Cys Cys Ser Gln Ser Asp Phe Gly Thr Thr Ser					
385		390		395	400
Leu Lys Tyr Leu Asp Leu Ser Phe Asn Gly Val Ile Thr Met Ser Ser					
	405		410		415
Asn Phe Leu Gly Leu Glu Gln Leu Glu His Leu Asp Phe Gln His Ser					
	420		425		430
Asn Leu Lys Gln Met Ser Glu Phe Ser Val Phe Leu Ser Leu Arg Asn					
	435		440		445
Leu Ile Tyr Leu Asp Ile Ser His Thr His Thr Arg Val Ala Phe Asn					
	450		455		460
Gly Ile Phe Asn Gly Leu Ser Ser Leu Glu Val Leu Lys Met Ala Gly					
465		470		475	480
Asn Ser Phe Gln Glu Asn Phe Leu Pro Asp Ile Phe Thr Glu Leu Arg					
	485		490		495
Asn Leu Thr Phe Leu Asp Leu Ser Gln Cys Gln Leu Glu Gln Leu Ser					
	500		505		510
Pro Thr Ala Phe Asn Ser Leu Ser Ser Leu Gln Val Leu Asn Met Ser					
	515		520		525
His Asn Asn Phe Phe Ser Leu Asp Thr Phe Pro Tyr Lys Cys Leu Asn					
	530		535		540
Ser Leu Gln Val Leu Asp Tyr Ser Leu Asn His Ile Met Thr Ser Lys					
545		550		555	560
Lys Gln Glu Leu Gln His Phe Pro Ser Ser Leu Ala Phe Leu Asn Leu					
	565		570		575
Thr Gln Asn Asp Phe Ala Cys Thr Cys Glu His Gln Ser Phe Leu Gln					
	580		585		590
Trp Ile Lys Asp Gln Arg Gln Leu Leu Val Glu Val Glu Arg Met Glu					
	595		600		605
Cys Ala Thr Pro Ser Asp Lys Gln Gly Met Pro Val Leu Ser Leu Asn					
	610		615		620
Ile Thr Cys Gln Met Asn Lys Thr Ile Ile Gly Val Ser Val Leu Ser					

625		630		635		640
Val Leu Val Val Ser Val Val Ala Val Leu Val Tyr Lys Phe Tyr Phe						
	645		650		655	
His Leu Met Leu Leu Ala Gly Cys Ile Lys Tyr Gly Arg Gly Glu Asn						
	660		665		670	
Ile Tyr Asp Ala Phe Val Ile Tyr Ser Ser Gln Asp Glu Asp Trp Val						
	675		680		685	
Arg Asn Glu Leu Val Lys Asn Leu Glu Glu Gly Val Pro Pro Phe Gln						
	690		695		700	
Leu Cys Leu His Tyr Arg Asp Phe Ile Pro Gly Val Ala Ile Ala Ala						
705		710		715		720
Asn Ile Ile His Glu Gly Phe His Lys Ser Arg Lys Val Ile Val Val						
	725		730		735	
Val Ser Gln His Phe Ile Gln Ser Arg Trp Cys Ile Phe Glu Tyr Glu						
	740		745		750	
Ile Ala Gln Thr Trp Gln Phe Leu Ser Ser Arg Ala Gly Ile Ile Phe						
	755		760		765	
Ile Val Leu Gln Lys Val Glu Lys Thr Leu Leu Arg Gln Gln Val Glu						
	770		775		780	
Leu Tyr Arg Leu Leu Ser Arg Asn Thr Tyr Leu Glu Trp Glu Asp Ser						
785		790		795		800
Val Leu Gly Arg His Ile Phe Trp Arg Arg Leu Arg Lys Ala Leu Leu						
	805		810		815	
Asp Gly Lys Ser Trp Asn Pro Glu Gly Thr Val Gly Thr Gly Cys Asn						
	820		825		830	
Trp Gln Glu Ala Thr Ser Ile						
	835					

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<211> 835

<212> PRT

<213> Mus musculus

<400> 99

Met	Met	Pro	Pro	Trp	Leu	Leu	Ala	Arg	Thr	Leu	Ile	Met	Ala	Leu	Phe	1	5	10	15
Phe	Ser	Cys	Leu	Thr	Pro	Gly	Ser	Leu	Asn	Pro	Cys	Ile	Glu	Val	Val	20	25	30	
Pro	Asn	Ile	Thr	Tyr	Gln	Cys	Met	Asp	Gln	Lys	Leu	Ser	Lys	Val	Pro	35	40	45	
Asp	Asp	Ile	Pro	Ser	Ser	Thr	Lys	Asn	Ile	Asp	Leu	Ser	Phe	Asn	Pro	50	55	60	
Leu	Lys	Ile	Leu	Lys	Ser	Tyr	Ser	Phe	Ser	Asn	Phe	Ser	Glu	Leu	Gln	65	70	75	80
Trp	Leu	Asp	Leu	Ser	Arg	Cys	Glu	Ile	Glu	Thr	Ile	Glu	Asp	Lys	Ala	85	90	95	
Trp	His	Gly	Leu	His	His	Leu	Ser	Asn	Leu	Ile	Leu	Thr	Gly	Asn	Pro	100	105	110	
Ile	Gln	Ser	Phe	Ser	Pro	Gly	Ser	Phe	Ser	Gly	Leu	Thr	Ser	Leu	Glu	115	120	125	
Asn	Leu	Val	Ala	Val	Glu	Thr	Lys	Leu	Ala	Ser	Leu	Glu	Ser	Phe	Pro	130	135	140	
Ile	Gly	Gln	Leu	Ile	Thr	Leu	Lys	Lys	Leu	Asn	Val	Ala	His	Asn	Phe	145	150	155	160
Ile	His	Ser	Cys	Lys	Leu	Pro	Ala	Tyr	Phe	Ser	Asn	Leu	Thr	Asn	Leu	165	170	175	
Val	His	Val	Asp	Leu	Ser	Tyr	Asn	Tyr	Ile	Gln	Thr	Ile	Thr	Val	Asn	180	185	190	
Asp	Leu	Gln	Phe	Leu	Arg	Glu	Asn	Pro	Gln	Val	Asn	Leu	Ser	Leu	Asp	195	200	205	
Met	Ser	Leu	Asn	Pro	Ile	Asp	Phe	Ile	Gln	Asp	Gln	Ala	Phe	Gln	Gly	210	215	220	
Ile	Lys	Leu	His	Glu	Leu	Thr	Leu	Arg	Gly	Asn	Phe	Asn	Ser	Ser	Asn	225	230	235	240
Ile	Met	Lys	Thr	Cys	Leu	Gln	Asn	Leu	Ala	Gly	Leu	His	Val	His	Arg	245	250	255	

Leu Ile Leu Gly Glu Phe Lys Asp Glu Arg Asn Leu Glu Ile Phe Glu
 260 265 270
 Pro Ser Ile Met Glu Gly Leu Cys Asp Val Thr Ile Asp Glu Phe Arg
 275 280 285
 Leu Thr Tyr Thr Asn Asp Phe Ser Asp Asp Ile Val Lys Phe His Cys
 290 295 300
 Leu Ala Asn Val Ser Ala Met Ser Leu Ala Gly Val Ser Ile Lys Tyr
 305 310 315 320
 Leu Glu Asp Val Pro Lys His Phe Lys Trp Gln Ser Leu Ser Ile Ile
 325 330 335
 Arg Cys Gln Leu Lys Gln Phe Pro Thr Leu Asp Leu Pro Phe Leu Lys
 340 345 350
 Ser Leu Thr Leu Thr Met Asn Lys Gly Ser Ile Ser Phe Lys Lys Val
 355 360 365
 Ala Leu Pro Ser Leu Ser Tyr Leu Asp Leu Ser Arg Asn Ala Leu Ser
 370 375 380
 Phe Ser Gly Cys Cys Ser Tyr Ser Asp Leu Gly Thr Asn Ser Leu Arg
 385 390 395 400
 His Leu Asp Leu Ser Phe Asn Gly Ala Ile Ile Met Ser Ala Asn Phe
 405 410 415
 Met Gly Leu Glu Glu Leu Gln His Leu Asp Phe Gln His Ser Thr Leu
 420 425 430
 Lys Arg Val Thr Glu Phe Ser Ala Phe Leu Ser Leu Glu Lys Leu Leu
 435 440 445
 Tyr Leu Asp Ile Ser Tyr Thr Asn Thr Lys Ile Asp Phe Asp Gly Ile
 450 455 460
 Phe Leu Gly Leu Thr Ser Leu Asn Thr Leu Lys Met Ala Gly Asn Ser
 465 470 475 480
 Phe Lys Asp Asn Thr Leu Ser Asn Val Phe Ala Asn Thr Thr Asn Leu
 485 490 495
 Thr Phe Leu Asp Leu Ser Lys Cys Gln Leu Glu Gln Ile Ser Trp Gly
 500 505 510

Val Phe Asp Thr Leu His Arg Leu Gln Leu Leu Asn Met Ser His Asn
515 520 525
Asn Leu Leu Phe Leu Asp Ser Ser His Tyr Asn Gln Leu Tyr Ser Leu
530 535 540
Ser Thr Leu Asp Cys Ser Phe Asn Arg Ile Glu Thr Ser Lys Gly Ile
545 550 555 560
Leu Gln His Phe Pro Lys Ser Leu Ala Phe Phe Asn Leu Thr Asn Asn
565 570 575
Ser Val Ala Cys Ile Cys Glu His Gln Lys Phe Leu Gln Trp Val Lys
580 585 590
Glu Gln Lys Gln Phe Leu Val Asn Val Glu Gln Met Thr Cys Ala Thr
595 600 605
Pro Val Glu Met Asn Thr Ser Leu Val Leu Asp Phe Asn Asn Ser Thr
610 615 620
Cys Tyr Met Tyr Lys Thr Ile Ile Ser Val Ser Val Val Ser Val Ile
625 630 635 640
Val Val Ser Thr Val Ala Phe Leu Ile Tyr His Phe Tyr Phe His Leu
645 650 655
Ile Leu Ile Ala Gly Cys Lys Lys Tyr Ser Arg Gly Glu Ser Ile Tyr
660 665 670
Asp Ala Phe Val Ile Tyr Ser Ser Gln Asn Glu Asp Trp Val Arg Asn
675 680 685
Glu Leu Val Lys Asn Leu Glu Glu Gly Val Pro Arg Phe His Leu Cys
690 695 700
Leu His Tyr Arg Asp Phe Ile Pro Gly Val Ala Ile Ala Ala Asn Ile
705 710 715 720
Ile Gln Glu Gly Phe His Lys Ser Arg Lys Val Ile Val Val Val Ser
725 730 735
Arg His Phe Ile Gln Ser Arg Trp Cys Ile Phe Glu Tyr Glu Ile Ala
740 745 750
Gln Thr Trp Gln Phe Leu Ser Ser Arg Ser Gly Ile Ile Phe Ile Val
755 760 765

Leu Glu Lys Val Glu Lys Ser Leu Leu Arg Gln Gln Val Glu Leu Tyr
 770 775 780

Arg Leu Leu Ser Arg Asn Thr Tyr Leu Glu Trp Glu Asp Asn Pro Leu
 785 790 795 800

Gly Arg His Ile Phe Trp Arg Arg Leu Lys Asn Ala Leu Leu Asp Gly
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 820 825 830

Thr Trp Thr
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<211> 835

<212> PRT

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20 25 30

Pro Asn Ile Thr Tyr Gln Cys Met Asp Gln Lys Leu Ser Lys Val Pro
35 40 45

Asp Asp Ile Pro Ser Ser Thr Lys Asn Ile Asp Leu Ser Phe Asn Pro
50 55 60

Leu Lys Ile Leu Lys Ser Tyr Ser Phe Ser Asn Phe Ser Glu Leu Gln
65 70 75 80

Trp Leu Asp Leu Ser Arg Cys Glu Ile Glu Thr Ile Glu Asp Lys Ala
85 90 95

Trp His Gly Leu His His Leu Ser Asn Leu Ile Leu Thr Gly Asn Pro
100 105 110

Ile Gln Ser Phe Ser Pro Gly Ser Phe Ser Gly Leu Thr Ser Leu Glu
115 120 125

Asn Leu Val Ala Val Glu Thr Lys Leu Ala Ser Leu Glu Ser Phe Pro
130 135 140

Ile Gly Gln Leu Ile Thr Leu Lys Lys Leu Asn Val Ala His Asn Phe
145 150 155 160

Ile His Ser Cys Lys Leu Pro Ala Tyr Phe Ser Asn Leu Thr Asn Leu
165 170 175

Val His Val Asp Leu Ser Tyr Asn Tyr Ile Gln Thr Ile Thr Val Asn
180 185 190

Asp Leu Gln Phe Leu Arg Glu Asn Pro Gln Val Asn Leu Ser Leu Asp
195 200 205

Met Ser Leu Asn Pro Ile Asp Phe Ile Gln Asp Gln Ala Phe Gln Gly
 210 215 220
 Ile Lys Leu His Glu Leu Thr Leu Arg Gly Asn Phe Asn Ser Ser Asn
 225 230 235 240
 Ile Met Lys Thr Cys Leu Gln Asn Leu Ala Gly Leu His Val His Arg
 245 250 255
 Leu Ile Leu Gly Glu Phe Lys Asp Glu Arg Asn Leu Glu Ile Phe Glu
 260 265 270
 Pro Ser Ile Met Glu Gly Leu Cys Asp Val Thr Ile Asp Glu Phe Arg
 275 280 285
 Leu Thr Tyr Thr Asn Asp Phe Ser Asp Asp Ile Val Lys Phe His Cys
 290 295 300
 Leu Ala Asn Val Ser Ala Met Ser Leu Ala Gly Val Ser Ile Lys Tyr
 305 310 315 320
 Leu Glu Asp Val Pro Lys His Phe Lys Trp Gln Ser Leu Ser Ile Ile
 325 330 335
 Arg Cys Gln Leu Lys Gln Phe Pro Thr Leu Asp Leu Pro Phe Leu Lys
 340 345 350
 Ser Leu Thr Leu Thr Met Asn Lys Gly Ser Ile Ser Phe Lys Lys Val
 355 360 365
 Ala Leu Pro Ser Leu Ser Tyr Leu Asp Leu Ser Arg Asn Ala Leu Ser
 370 375 380
 Phe Ser Gly Cys Cys Ser Tyr Ser Asp Leu Gly Thr Asn Ser Leu Arg
 385 390 395 400
 His Leu Asp Leu Ser Phe Asn Gly Ala Ile Ile Met Ser Ala Asn Phe
 405 410 415
 Met Gly Leu Glu Glu Leu Gln His Leu Asp Phe Gln His Ser Thr Leu
 420 425 430
 Lys Arg Val Thr Glu Phe Ser Ala Phe Leu Ser Leu Glu Lys Leu Leu
 435 440 445
 Tyr Leu Asp Ile Ser Tyr Thr Asn Thr Lys Ile Asp Phe Asp Gly Ile
 450 455 460

Phe	Leu	Gly	Leu	Thr	Ser	Leu	Asn	Thr	Leu	Lys	Met	Ala	Gly	Asn	Ser	
465					470					475					480	
Phe	Lys	Asp	Asn	Thr	Leu	Ser	Asn	Val	Phe	Ala	Asn	Thr	Thr	Asn	Leu	
				485					490					495		
Thr	Phe	Leu	Asp	Leu	Ser	Lys	Cys	Gln	Leu	Glu	Gln	Ile	Ser	Trp	Gly	
			500					505						510		
Val	Phe	Asp	Thr	Leu	His	Arg	Leu	Gln	Leu	Leu	Asn	Met	Ser	His	Asn	
		515					520					525				
Asn	Leu	Leu	Phe	Leu	Asp	Ser	Ser	His	Tyr	Asn	Gln	Leu	Tyr	Ser	Leu	
	530					535					540					
Ser	Thr	Leu	Asp	Cys	Ser	Phe	Asn	Arg	Ile	Glu	Thr	Ser	Lys	Gly	Ile	
545				550						555				560		
Leu	Gln	His	Phe	Pro	Lys	Ser	Leu	Ala	Phe	Phe	Asn	Leu	Thr	Asn	Asn	
			565						570					575		
Ser	Val	Ala	Cys	Ile	Cys	Glu	His	Gln	Lys	Phe	Leu	Gln	Trp	Val	Lys	
		580						585					590			
Glu	Gln	Lys	Gln	Phe	Leu	Val	Asn	Val	Glu	Gln	Met	Thr	Cys	Ala	Thr	
	595						600					605				
Pro	Val	Glu	Met	Asn	Thr	Ser	Leu	Val	Leu	Asp	Phe	Asn	Asn	Ser	Thr	
	610					615					620					
Cys	Tyr	Met	Tyr	Lys	Thr	Ile	Ile	Ser	Val	Ser	Val	Val	Ser	Val	Ile	
625				630						635				640		
Val	Val	Ser	Thr	Val	Ala	Phe	Leu	Ile	Tyr	His	Phe	Tyr	Phe	His	Leu	
			645						650					655		
Ile	Leu	Ile	Ala	Gly	Cys	Lys	Lys	Tyr	Ser	Arg	Gly	Glu	Ser	Ile	Tyr	
		660						665					670			
Asp	Ala	Phe	Val	Ile	Tyr	Ser	Ser	Gln	Asn	Glu	Asp	Trp	Val	Arg	Asn	
	675						680					685				
Glu	Leu	Val	Lys	Asn	Leu	Glu	Glu	Gly	Val	Pro	Arg	Phe	His	Leu	Cys	
	690					695					700					
Leu	His	Tyr	Arg	Asp	Phe	Ile	His	Gly	Val	Ala	Ile	Ala	Ala	Asn	Ile	
705					710					715				720		

Ile Gln Glu Gly Phe His Lys Ser Arg Lys Val Ile Val Val Val Ser
725 730 735

Arg His Phe Ile Gln Ser Arg Trp Cys Ile Phe Glu Tyr Glu Ile Ala
740 745 750

Gln Thr Trp Gln Phe Leu Ser Ser Arg Ser Gly Ile Ile Phe Ile Val
755 760 765

Leu Glu Lys Val Glu Lys Ser Leu Leu Arg Gln Gln Val Glu Leu Tyr
770 775 780

Arg Leu Leu Ser Arg Asn Thr Tyr Leu Glu Trp Glu Asp Asn Pro Leu
785 790 795 800

Gly Arg His Ile Phe Trp Arg Arg Leu Lys Asn Ala Leu Leu Asp Gly
805 810 815

Lys Ala Ser Asn Pro Glu Gln Thr Ala Glu Glu Glu Gln Glu Thr Ala
820 825 830

Thr Trp Thr
835